

Notice of Allowability

Application No.

10/764,448

Examiner

Lana N. Le

Applicant(s)

WATANABE ET AL.

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/27/04
2. ☒ The allowed claim(s) is/are 1-12
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with applicant's representative, Scott McKeown, on 09/05/06.
3. The application has been amended as follows:
 - cancel non-elected claims 13-22.
 - in claim 1, line 9, after "carrier", delete ---and---- and add ---to generate a first multiplied signal, and then multiplying the first multiplied signal with-----;
 - in claim 1, line 16, after "carrier", delete ----and----- and add ---to generate a second multiplied signal, and then multiplying the second multiplied signal with-----;
 - in claim 7, line 9, after "carrier", delete ---and---- and add ---to generate a first multiplied signal, and then multiplying the first multiplied signal with-----;
 - in claim 7, line 18, after "carrier", delete ----and----- and add ---to generate a second multiplied signal, and then multiplying the second multiplied signal with-----.

REASON FOR ALLOWANCE

4. The examiner's amendment above is needed to place the claims in condition for allowance.
5. Claims 1-12 are allowable over the cited prior art.
6. The following is an examiner's statement of reasons for allowance:

Regarding independent claims 1 and 7, Ito et al (US 5,963,847) disclose a method for transmitting and a transmitter comprising the steps of: acquiring a carrier of a specified frequency (from LO 54 and phase shifter $\pi/2$); acquiring a transmission data sequence via 51; generating a first baseband waveform (I signal from MOD 52); and multiplying the generated first baseband waveform (I signal from MOD 52) by the carrier (LO signal from 54) to generate a first multiplied signal, generating a second baseband waveform (Q signal from MOD 52) having a specified phase difference from the first baseband waveform; and multiplying the generated second baseband waveform (Q signal from MOD 52) by the phase shifted carrier (phase shifted by $\pi/2$) resulting from phase shift of the carrier to acquire a second multiplied signal; and mixing (via 55) the multiplied signal (see fig. 5) and transmitting the transmission signal (via 15 and antenna of fig. 6).

However, Ito et al and the cited prior art fail to disclose: acquiring a second transmission data sequence; generating the first baseband waveform and the second baseband waveform of a cycle equivalent to an integral multiple of the carrier; multiplying the first multiplied signal and the first transmission data sequence to acquire a first transmission waveform; and multiplying the second multiplied signal

and a second transmission data sequence to acquire a second transmission waveform; and mixing the first transmission waveform with the second transmission waveform to acquire a transmission signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Suzuki (US 2005/0,143,025), Transmitting Apparatus
- Bellaouar Et Al (US 2003/0,087,613) Wireless Communication System with Variable Intermediate Frequency Transmitter
- Nagatani Et Al (US 7,020,447) Method And Apparatus For Compensating for Distortion in Radio Apparatus.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N. Le whose telephone number is (571) 272-7891. The examiner can normally be reached on M-F 9:30-18:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on (571) 272-7899. The fax phone

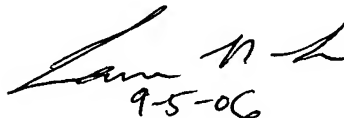
Art Unit: 2618

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lana Le

September 5, 2006



9-5-06

LANA LE
PRIMARY EXAMINER